



RECONSTRUCTION OF THE PLANTINS WASTE WATER TREATMENT PLANT IN BEYNES

The Plantins de Beynes plant is located in the heart of a remarkable site surrounded by an archaeological area to the South and agricultural fields to the North. The architectural team aims to create a dialogue with the surrounding rural areas while respecting the biological balance in place and giving the development complex, using landscaping and architectural treatment. Started in January 2009 by the city of Beynes, the tender for building construction was won by consultant Naldeo and AR ARCHITECTES in 2010. Construction works began in May, 2011 and the plant is operational in August 2012.

INNOVATIONS

- ▶ **The architectural and landscaping design of the construction**, its volumes, heights and coverings is in a harmonious relationship with its environment.
- ▶ **The building design is bioclimatic** with a passive design.
- ▶ **Use recyclable materials** (wood, gabions, green roofs).
- ▶ **Renewable energy** (Thermal solar panels, Canadian well and VMC turbofan).
- ▶ **Innovative organic bio filters** which treats and extracts polluted air.
- ▶ **Mud treatment is achieved by the use of Reed beds** (4,000 m² of filtering gardens treating 25,000 m³ of mud/year).

KEY DATA

- **Client:** City of Beynes
- **Project:** Construction HEQ® of a bioclimatic building open to the public
- **Mission:** Architecture HEQ® and landscaping
- **Consultant Designer:**
AR ARCHITECTES, NALDEO
- **Contractors:**
DEGREMONT FA, ZUB, WATELET
- **Area:** 465 m² (16 460 m² site area)
- **Cos:** 4 500 k€ HT
- **Date:** 2010 - 2013

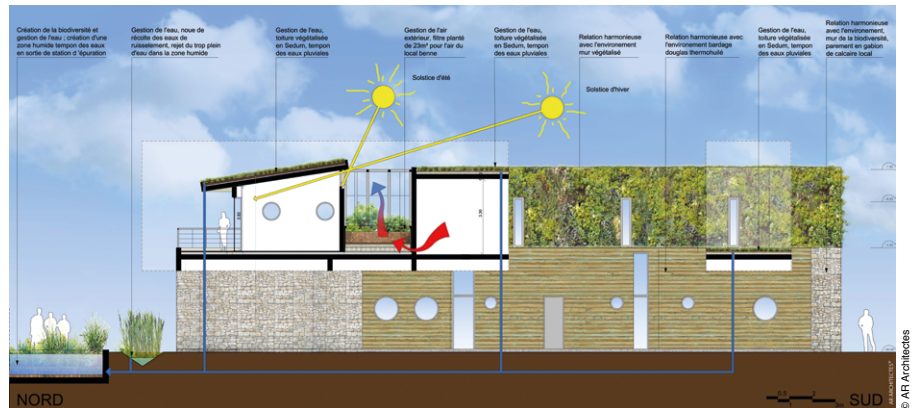
STAKEHOLDERS

- ▶ The project, financed by the Yvelines General Council, the l'Agence de l'eau Seine Normandie and the city of Beynes was launched in 2009 and won by the project management group compounds of Naldéo, engineering company and AR ARCHITECTS (Architects and landscape HQE).
- ▶ The construction works contract was won by: Degremont (equipment), ZUB (civil engineering) and Watelet TP (Roads system and urban public utilities).

IMPLEMENTATION

► The building had an old water area. The rehabilitation of an old hydraulic retention basin installation collects rainwater and streaming water thus creating ecological habitats and ensuring an available water reservoir for fire-fighters. Valorization of excavation by creating a rustic observatory accessible for everybody.

► An archaeological site on the plot led to a one-year construction delay. Indeed, the municipality had to buy a new field to dig the planted ponds for the mud treatment, initially planned on the excavation site.



RESULTS

/// Current situation

4 738 éq/h (40%) – 284 kg/d (40%) – Rate of flow 2 100 – 3 500 m³/d

/// Mud results

Volume 18,994 m³ – Solids 107 t

/// Consumption

Ratio of 0,71 kWh/m³ of purified water (operating 8 months)

This project received the Janus Price of the City in 2014.



FINANCIAL DIMENSION OF THE PROJECT

/// Financial report

Economics 85,000 €/year (transport for mud treatment)

/// Cost of water treated

1.16 €/m³ instead of 1.70 €/m³

KEY FIGURES

- Budget: 4,500 k€ HT
- Building works: 1,215,650 € HT
- Subvention: 3,625,171 €, 76% of the total investment

